

REMARKS

The Examiner states on Page 2 regarding the specification: "The specification has not been checked to the extent necessary to determine the presence of all possible minor errors."

Applicants have checked the specification and are not aware of any error.

The Examiner objected to claims 4 and 6-8 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In response, Applicants amended claim 6 such that claim 6 now is in independent form including all of the limitations of the original base claim 1.

The Examiner objected to claims 13-20 under 37 CFR 1.75 as allegedly being a substantial duplicate of claims 1-8. Applicants respectfully dispute this objection.

The Examiner rejected claims 1-3, 5 and 13-15 and 17 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Parat *et al.* (U.S. Patent No. 6,194,784 dated 2/27/2001) in view of Park *et al.* (U.S. Publication No. 2005/0048732 filed 8/26/2003).

Applicants respectfully traverse the § 103 rejections under the common assignment rule and with the following arguments.

Double Patenting

The Examiner objected to claims 13-20 under 37 CFR 1.75 as allegedly being a substantial duplicate of claims 1-8. In response, Applicants respectfully to dispute this objection.

It should be noted that claim 1 claims only one "diffusion barrier region" whereas claim 13 claims "first and second diffusion barrier regions". In addition, claim 1 claims only one "spacer oxide region" whereas claim 13 claims "first and second spacer oxide regions". As a result, claim 13 has more limitations than claim 1, and therefore, is not a substantial duplicate of claim 1 as alleged by the Examiner.

35 U.S.C. § 103(a)

The Examiner rejected claims 1-3, 5 and 13-15 and 17 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Parat *et al.* (U.S. Patent No. 6,194,784 dated 2/27/2001) in view of Park *et al.* (U.S. Publication No. 2005/0048732 filed 8/26/2003).

First, Applicants respectfully traverse the § 103 rejections under the common assignment rule. Applicant contends that **Park** cannot be used as prior art in rejecting claims of the present patent application, because “[e]ffective November 29, 1999, subject matter which was prior art under former 35 U.S.C. 103 via 35 U.S.C. 102(e) is now disqualified as prior art against the claimed invention if that subject matter and the claimed invention ‘were, at the time the invention was made, owned by the same person or subject to assignment by the same person.’” MPEP 706.02(1)(1). First, the present patent application was filed on **October 01, 2004** which is after November 29, 1999. Second, **Park** is being considered by the Examiner as prior art under former 35 U.S.C. 103 via 35 U.S.C. 102(e), because **Park** was published on **March 3, 2005** which is after the filing date of **October 01, 2004** of the present patent application. Third, both the subject matter of **Park** and the claimed invention of the present patent application were, at the time the invention was made, owned by **International Business Machines Corporation** or subject to assignment by **International Business Machines Corporation**. Accordingly, Applicant respectfully maintains that **Park** cannot be used as a prior art reference.

Next, Applicants respectfully present the following arguments.

Regarding claim 1, Applicants respectfully contend that claim 1 is not unpatentable over Parat in view of Park, because Parat in view of Park does not teach or suggest each and every feature of claim 1. For example, Parat in view of Park does not teach or suggest “the diffusion

barrier region comprises a material having a property of preventing a **diffusion of oxygen-containing materials** through the diffusion barrier region” of claim 1 (bold emphasis added).

More specifically, Parat teaches that the diffusion barrier region 237 (FIG. 4 of Parat) comprises silicon dioxide (column 5, line 33) which does not prevent a diffusion of oxygen (i.e., an oxygen-containing material) through the diffusion barrier region 237. In contrast, the diffusion barrier region of claim 1 comprises a material having a property of preventing a **diffusion of oxygen-containing materials** through the diffusion barrier region.

Assume that Park could be used as a reference. Park teaches a nitride layers 30 (FIG. 6A and 6B, paragraph 0040 of Park). However, the nitride layers 30 cannot be used to teach the diffusion barrier region of claim 1 because the nitride layers 30 is not in direct physical contact with any “first and second gate polysilicon regions” as claimed in claim 1.

Based on the preceding arguments, Applicants respectfully maintain that claim 1 is not unpatentable over Parat in view of Park, and that claim 1 is in condition for allowance.

Regarding claim 2, since claim 2 depends from claim 1, Applicants contend that claim 2 is likewise in condition for allowance.

Regarding claim 3, since claim 3 depends from claim 1, Applicants contend that claim 3 is likewise in condition for allowance.

In addition, Parat in view of Park does not teach or suggest the steps of claim 3. More specifically, Parat in view of Park teaches that the gate dielectric region 231 is formed first (column 4, lines 56-58 of Parat). Next, the first gate polysilicon region 232 is formed on top of the gate dielectric region 231 (column 4, lines 62-64 of Parat). Later, the second gate polysilicon region 230 is formed on top of the first gate polysilicon region 232 (column 5, lines 14-16 of

Parat). In contrast, in claim 3, the gate dielectric region and the first and second gate polysilicon regions are formed simultaneously by an etching step (the last step of claim 3).

Regarding claim 5, since claim 5 depends from claim 1, Applicants contend that claim 5 is likewise in condition for allowance.

Regarding claim 13, Applicants respectfully contend that claim 13 is not unpatentable over Parat in view of Park, because Parat in view of Park does not teach or suggest each and every feature of claim 13. For example, Parat in view of Park does not teach or suggest "the first and second diffusion barrier regions comprise a material having a property of **preventing a diffusion of oxygen-containing materials** through the first and second diffusion barrier regions" of claim 13 (bold emphasis added).

More specifically, Parat teaches that the diffusion barrier region 237 (FIG. 4 of Parat) comprises silicon dioxide (column 5, line 33) which does not prevent a diffusion of oxygen (i.e., an oxygen-containing material) through the diffusion barrier region 237. In contrast, the first and second diffusion barrier regions comprise a material having a property of preventing a **diffusion of oxygen-containing materials** through the first and second diffusion barrier regions.

Assume that Park could be used as a reference. Park teaches a nitride layers 30 (FIG. 6A and 6B, paragraph 0040 of Park). However, the nitride layers 30 cannot be used to teach the first and second diffusion barrier region of claim 13 because the nitride layers 30 is not in direct physical contact with any "first and second gate polysilicon regions" as claimed in claim 13.

Based on the preceding arguments, Applicants respectfully maintain that claim 13 is not unpatentable over Parat in view of Park, and that claim 13 is in condition for allowance.

Regarding claim 14, since claim 14 depends from claim 13, Applicants contend that claim 14 is likewise in condition for allowance.

Regarding claim 15, since claim 15 depends from claim 13, Applicants contend that claim 15 is likewise in condition for allowance. In addition, because claim 15 is similar to claim 3, Applicants contend that claim 14 is likewise in condition for allowance based on arguments similar to the arguments for claim 3 above.

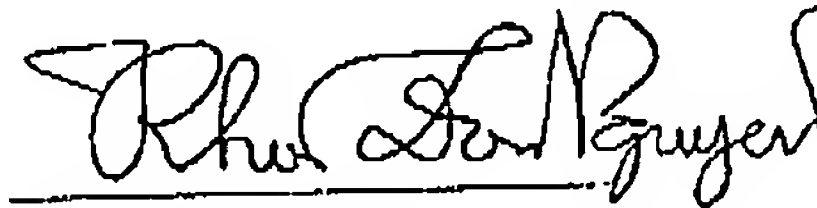
Regarding claim 17, since claim 17 depends from claim 13, Applicants contend that claim 17 is likewise in condition for allowance.

Regarding claims 18-20, Applicants would like to note that claims 18-20 are similar to claims 6-8 which the Examiner would allow if rewritten in independent form (bullet #9, page 6 of the Office Action). In addition, claim 13 (the root claim of claims 18-20) is narrower in scope than claim 1 (the root claim of claims 6-8) as pointed out above in Applicants' response to Examiner's double patenting objection of claims 13-20. Therefore, Applicants contend that claims 18-20 are in condition for allowance.

CONCLUSION

Based on the preceding arguments, Applicants respectfully believe that all pending claims and the entire application meet the acceptance criteria for allowance and therefore request favorable action. If the Examiner believes that anything further would be helpful to place the application in better condition for allowance, Applicants invites the Examiner to contact Applicants' representative at the telephone number listed below. The Director is hereby authorized to charge and/or credit Deposit Account 09-0456.

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